

Development of Energy Efficient, Multi-Channel, Pulsed Plasma Generator for High-Speed Flow Control by Localized Arc Filament Plasma Actuators, Phase I

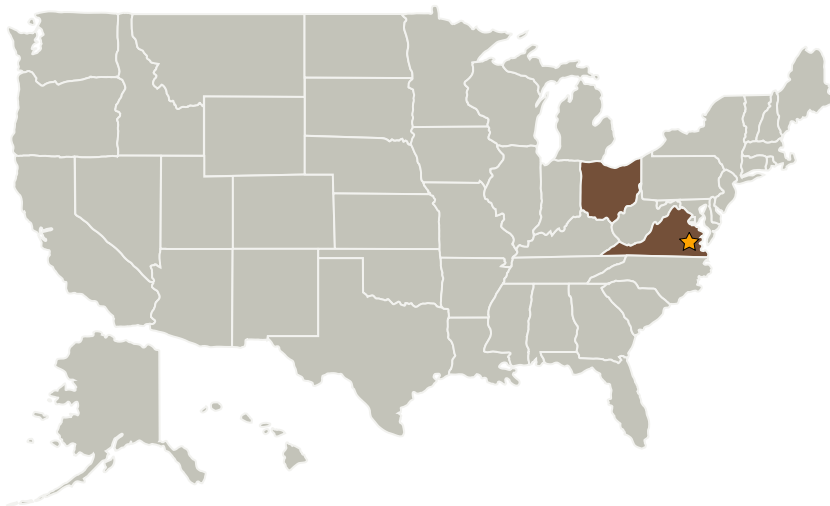
Completed Technology Project (2007 - 2007)



Project Introduction

The research team at The Ohio State University has been developing technologies to suppress jet noise using localized arc filament plasma actuators and are in the process of demonstrating this type of technology at NATR facility at NASA Glenn Research Center. The localized arc filament plasma actuators developed at OSU are the only actuators that can be used currently for active control of flow and noise in high Reynolds number and high-speed flows, such as jets, mixing layers, combustors, cavity, etc. However, the lack of availability of appropriate plasma generator has been a hindrance to this technology development. One of the challenges is designing and developing a power supply which can derive up to 64 actuators. The current Phase I SBIR program will explore some new technologies for the design of such a power supply. The research team will focus on building the power supply for NASA during the Phase II program and also will make significant efforts in commercializing this product by making it much more energy sufficient, user friendly, and compact.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
★ Langley Research Center (LaRC)	Lead Organization	NASA Center	Hampton, Virginia
Innovative Scientific Solutions, Inc.	Supporting Organization	Industry	Dayton, Ohio

Primary U.S. Work Locations	
Ohio	Virginia

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX15 Flight Vehicle Systems
 - └ TX15.1 Aerosciences
 - └ TX15.1.5 Propulsion Flowpath and Interactions